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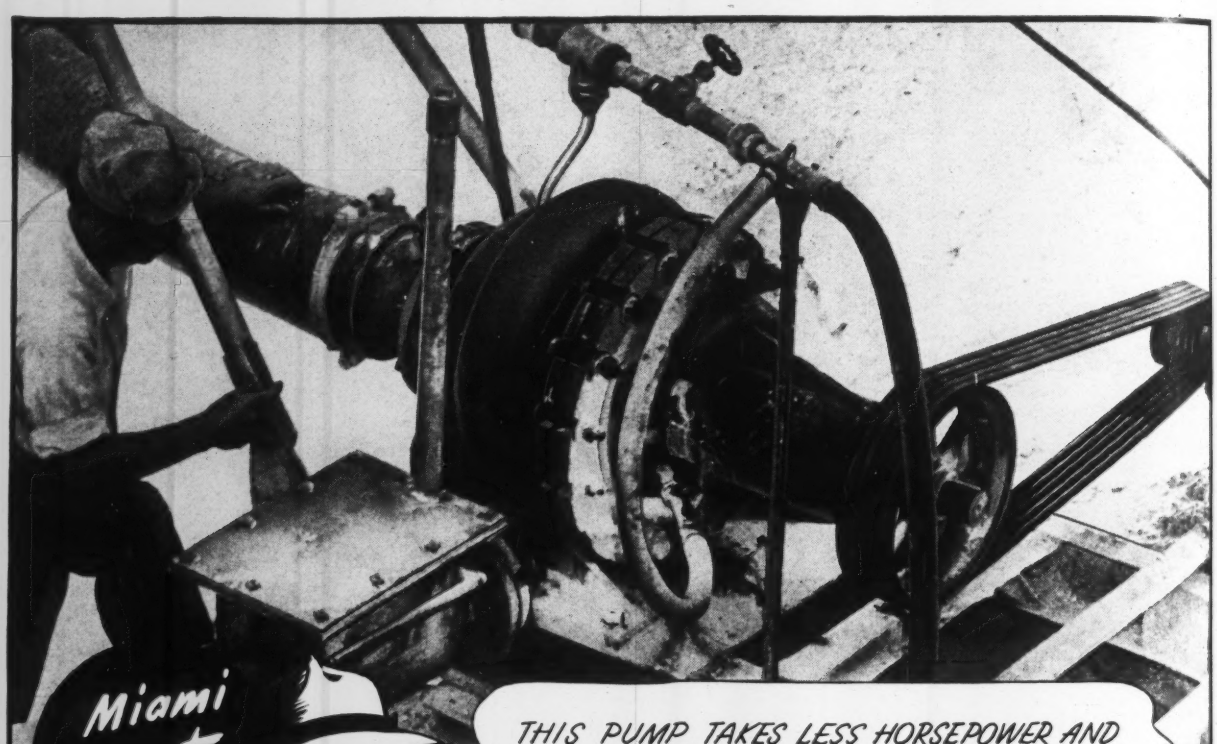
No Downtime for "A-C" Solids Pumps

— EXPERIENCE OF MIAMI CRUSHED STONE COMPANY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News of the Week

ENGINEERING NEWS-RECORD • SEPTEMBER 25, 1947 • VOLUME 139 • NUMBER 13

Report drop in production of construction materials

Department of Commerce says lumber and iron-ore based products declined at half-year mark, despite heavy demand caused by high construction rate

In the face of a continuing high level of construction activity—including an apparent housing boom—production of many construction materials has been falling steadily short of necessary volume, the Department of Commerce said last week.

In a report summarizing production of materials for the first half of 1947—released for publication Sept. 25—the Commerce department reveals that its composite production index for July recorded "substantial" declines for the third consecutive month, although the index as a whole remained above the assumed normal year of 1939 on which the index is based.

This survey, coming on the heels of reports of a tremendous upsurge in the construction of housing (*ENR* Sept. 18, vol. p. 374) and a high level of work in the heavy construction field, serves to emphasize the somewhat spotty reports of shortages appearing in industry news recently. In New England, for example, recent reports from *Engineering News Record's* correspondents, indicate that housing construction is being slowed by shortages of nails, and similar stories have come from the southeast and the mid-west. Local shortages of some types of lumber and steel have also been noted. As yet, however, no shortage appears to have reached nation-wide proportions.

Itemized production drop

Eleven of the 19 materials that make up the commerce department index showed declines in July, and in most cases the declines were substantial. Lumber production, after reaching a peak in May, fell off five points in June and another four points in July, partly due to vacation periods, repair and maintenance on machinery and similar factors, but also due to bad weather and to the fact that many small operators, in the field for the high profit during and immediately after the war, have now dropped out of production.

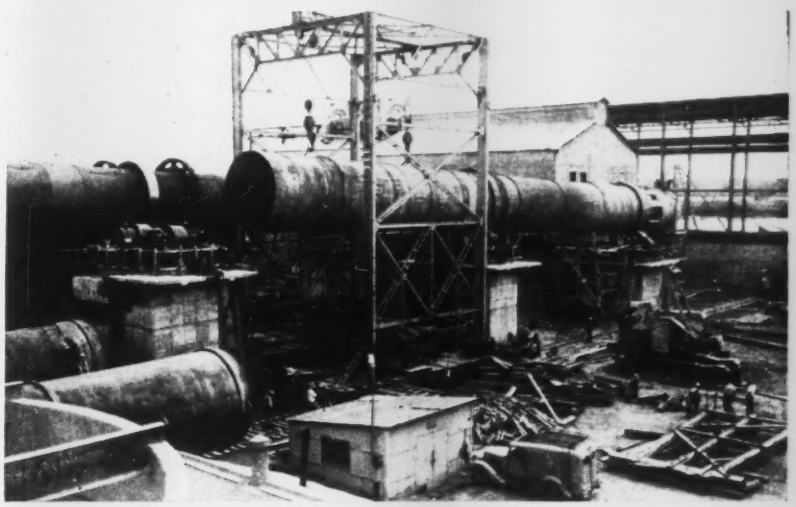
The ten other items of the index that registered declines use iron ore as a basic raw material, and most of the items are important construction materials for which no suitable substitutes are available. They include: cast iron soil pipe, which in July registered the lowest monthly production for the year; nails of all types—which have shown a steady decline since March and finally fell below the 1939 average; cast iron radiation; rigid steel conduit and fittings; warm air furnaces; water heaters and mechanical stokers.

The department blamed shortages of iron ore and coking coal (used in steel manufacture) for the drop in this production, and predicted that these shortages would continue and might even become worse, to aggravate further an already critical construction material supply situation.

Some bright spots

Turning to a more encouraging side of the production picture, the report noted that the production of gypsum board—considered critical only recently—has continued at a high level, increasing steadily from month to month according to the figures.

Cement production for July was listed as the highest since 1942, and stocks were said to be 20 percent higher than at the same period in 1946. Production of structural clay tile and brick were also at the highest levels of the year.



Kiln Needs Special Crane—*Erection of a 12-ft. dia., 426 ft. long, oil-fired rotary kiln for the General Portland Cement Co. at Tampa, Fla., required the use of an ingenious gantry crane. Mounted on two standard 50-ft. railroad flatcars which also carry the 5-ton hoisting engines, the crane operates on standard gage track over carefully compacted soil. The 33-ton gantry framework, with all bolted connections for easy dismantling, has a 30-ft. span with an overall vertical clearance of 55 ft. Erection of the plant is being done by The Austin Co.*

NEWS IN BRIEF

In telegraphic form, here are latest news developments on the engineering and construction front during the week.

Construction—A $10,000,000 wholesale food terminal is planned for a 57-acre site in the Charlestown area of *Boston, Mass.* . . . A $1,916,667 contract for the main building superstructure of an addition to the harbor steam plant in *Wilmington, Calif.*, has been awarded to Guy F. Atkinson Co., Los Angeles . . . Spence Brothers, Saginaw, Mich., have been awarded the general contract for a multi-million dollar gray iron foundry of the General Motors Corp. on a 256-acre site near *Defiance, Ohio* . . . S. M. Investment Co. will build a $1,500,000 cold storage plant at *Houston, Tex.* . . . Work has started on a $2,000,000 manufacturing plant for A. G. Spalding & Bros. at *Williamsett, Mass.* . . . A $4,000,000 industrial center is to be built in *Newton, Mass.* . . . A $27,000,000 expansion program which includes the plant at *Cliffside, N. C.*, at a cost of $12,000,000 and the construction of a new generating plant on the Dan River near *Leaksville, N. C.*, has been announced by the Duke Power Co. . . . Columbia Steel Co., U. S. Steel subsidiary, has announced plans for a cold reduction mill in the *Los Angeles, Calif.*, area with a capacity to produce over 300,000 tons of sheets annually . . . American Can Co. will build a $1,000,000 factory structure on a 12-acre site in *Indianapolis, Ind.* . . . Proposal of the Oregon Highway Commission to construct a $2,700,000, 5-story office building at *Salem* has been approved by the State Board of Control. . . . A $1,000,000 covered stadium of reinforced concrete and brick is being built at *Huntsville, Tex.*, for the state prison system . . . Bids are to be asked soon for a $1,500,000 science building at Marshall College, *Charleston, W. Va.*

Housing—A $2,000,000 low-rental housing project is planned at *Kansas City, Mo.*, by the J. E. Dunn Construction Co. . . . Construction is starting on the $2,000,000 Claborne 12-story apartment house at *Long Beach, Calif.*, by Eastern Construction Co. of Trenton, N. J. . . . A 96-unit apartment project to cost $500,000 will be carried out at *Tonawanda, N. Y.*, by William Borneman, Donald Love and Eugene McMahon of Buffalo . . . At *Houston, Tex.*, 150 residences costing $1,192,500 will be built in the next year in the Denver addition by the San Jacinto Lumber & Bldg. Co., and the T. B. Hubbard Co. will build the Monclair apartments to cost, $1,290,000 for 120 family units . . . Work starts soon on a 46-unit rental housing project in *Fort Wayne, Ind.* J. Lloyd Allen and John H. Kelley of Indianapolis are builders.

Miscellany—Plans for sewage treatment improvements to cost $1,550,000 have been given final approval by the *Indiana* Stream Pollution Control Board while the *Indianapolis* Sanitation Board has approved new sanitation facilities for the southwestern suburbs of Mars Hill and Lafayette Heights . . . One of the largest covered wooden bridges in Canada, on the North West Misamichi River near *Newcastle, N. B.*, 1,200 ft. long—was destroyed by fire Sept. 7. . . . Since inauguration of the clean streams program the *Pennsylvania* State Sanitary Water Board has issued a total of 4,126 notices to municipalities, institutions, industries and coal operators in which specific performances are ordered to place them in compliance with the board's requirements. Of that number 56% notices have gones to municipalities, institutions and industries ordering them to prepare plans for sewage treatment works, and 519 industries have been ordered to plan treatment works . . . A meeting of the Power Crane and Shovel Association, representing 17 leading manufacturers, is being held at the Hotel Drake, *Chicago, Ill.* this week.

THE COVER PICTURE

Maintenance crews of the Milwaukee Railroad last week were started on the task of digging away a part of a 2,000,000 cu. yd. earth slide that completely engulfed the railroad's tracks, dammed the Yakima River, and threatened tracks of another railroad and a motor highway near Cle Elum, Washington.

Engineers said that the slide apparently was caused by seepage from an irrigation ditch that ran along the top edge of the steep hill at right in the photo.

Suddenly blocked by the great mass of earth and rock, the river, which originally made a bend at this point, began cutting itself a new channel, and for a time threatened the embankment of the Northern Pacific Railroad and the highway. Milwaukee road engineers estimated that permanent repairs would require excavation of 50,000 cu.yd. and require cuts as deep as 60 ft.

Seattle Post Intelligencer photo

Raze 60-year-old bridge in Cleveland, Ohio

Work on the removal of the 60-year-old Lower Main Avenue bridge in Cleveland, Ohio—one of the earliest links between the east and west sides, and over whose razing a heated controversy has raged between the city and federal governments and residents of the flats area—started Aug. 15.

The bridge was ordered razed on May 4, 1944, by Secretary of War Henry L. Stimson upon recommendation of the U. S. Army Engineers, who held that it was a menace to navigation. Mayor Thomas A. Burke contended that the city had no funds to raze the span and that the federal government should help. Businessmen in the flats urged that instead of removing the bridge, it should be repaired.

Finally, on June 26, 1945, the city council authorized the removal, but inability of the city to obtain materials to repair the Center Street Bridge, which has been under repair for the last 18 months to take care of the added traffic, caused further delay.

The Merritt-Chapman & Scott Corp. have a $34,000 contract for the removal of the bridge.

Archeological remains on damsites to be saved

Philip Brucker, anthropologist from the Smithsonian Institute, Washington, D. C., is in Oregon directing a survey of archeological sites where dams are to be built under the Willamette valley flood control, irrigation and power project. The purpose of the survey, which is being conducted from the University of Oregon campus at Eugene, Ore., is to save any materials of value in areas that will be flooded when the dams are constructed.

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N. Y. port body seeks Hoboken lease

In a proposal that would involve the expenditure of about $17,000,000 to give New York Harbor its most modern and efficient pier, the Port of New York Authority last week offered to take over four piers for ocean-going steamships at Hoboken, N. J., on a 50-year lease basis.

The offer, made after a study requested by Hoboken city officials, was contingent on transfer of the properties—held by the federal government since 1918—to the city at a rental of $1 per year in consideration of taxes lost by the municipality since government operation began.

It was the third such offer made to a community fronting the harbor by the Port Authority—a bi-state organization committed to improvement of port facilities. The authority recently took over operation of New York City's airports, and also offered to take over the Newark, N. J., airport and dock facilities of Port Newark on a similar rental basis.

Guarantees rental

The offer to Hoboken calls for a minimum rental guarantee to the city of $50,000 yearly, plus a 75-25 percent division of the net revenues. It contemplates the rehabilitation of piers 1, 2 and 3, and the complete reconstruction of pier 4.

The new Pier 4 (shown in drawings on this page) would cost about $13,000,000, and would be 950 ft. long by 330 ft. wide. It would include a 288-ft. wide, double-decked center shed, a 30-ft. north apron equipped with double railroad tracks, and the inside shed area would be 469,000 sq. ft.—almost the entire area of Piers 1, 2 and 3 as they now exist.

Both upper and lower levels of the pier would be accessible to vehicles through curving ramps from the street level outside, and a unique 25-ft.-wide U-shaped truck boulevard within the pier, plus cross aisles and loading spaces will make it possible to handle up to 120 trucks at one time on the two levels. The ramps would provide two lanes with 4½ percent grades.

Rehabilitation of the other three piers would cost an estimated $4,000,000, and include a three-lane ramp along the entire inshore face of the piers to provide vehicles access to the second deck.

The piers now serve as headquarters for the U. S. Maritime Commission, which will be given space in new structures.

***Pier Plan**—The Port of New York Authority, planning a $17,000,000 rehabilitation of steamship piers at Hoboken, N. J., proposes to rebuild one pier (shown at right in upper photo and in detail below) into a two-deck structure, with truck access through a series of ramps.*

Plan World Conference on Dam Construction

As an activity of the Third World Power Conference, the Third International Conference on Large Dams will be held in Stockholm, Sweden, in 1948. American engineers are being requested to submit papers for the meeting, which is expected to bring together dam designers and builders from all over the world.

Technical papers are desired on: Uplift on dams and uplift stresses; research instrumentation and results in measuring stresses and strains in concrete and earth dams; methods of controlling "piping" in earth dams; and experience resulting from the use of special cements in large structures. A few papers will also deal with the economic, social and construction problems that arise in building a large dam.

American engineers are requested to submit their papers not later than Dec. 31 to Michael W. Straus, Commissioner of the Bureau of Reclamation, Washington, D. C., who is chairman of the U. S. Committee of the International Commission.

Bureau engineers report that the next decade promises to produce a world-wide activity in large dam construction, with many previous records overshadowed, making the meeting of great importance. To date, the U. S. has established many records on the construction of dams, but other countries may soon exceed these records.

For example, the Yangtze Dam in China, embodying unprecedented power and navigation features, will be 800 ft. high. An even larger dam—structure 850 ft. high—is proposed at Super-Dixence, Switzerland, and the Kofi Nepal Dam of India is to be the same height. The Ma Chi Dam of China is to be 800 ft; the Dhiangarh and Keshau dams of India, both 750 ft., and even the relatively small Larji Dam of India at 700 ft. will compare with anything yet built in the U. S.

Schuylkill River survey to be made by engineers

In promotion of a clean streams drive, a contract has been entered into by the Commonwealth of Pennsylvania through the Department of Health, acting for the Sanitary Water Board, with Malcolm Pirnie Engineers of New York for the purpose of making a survey to determine the necessary work to be done in establishing a program of investigation on reasonable water quality and waste standards for the Schuylkill River and its tributaries above Fairmont Dam, Philadelphia.

DEVELOPMENTS BEYOND U. S. BORDERS

Digested from reports by Engineering News-Record correspondents and the McGraw-Hill World News Bureau

Italy reports substantial progress in drive to rebuild roads and railroads—Swiss build new power dam—Mexican building boom revives—Siam begins seven-year irrigation program—Foreign engineers study U. S. mapping methods

Italy—Despite the desperate financial and political situation of the nation, in the two years since the end of the war Italy has succeeded in making good progress on a vast rehabilitation project for its state-owned highway and railway transport systems.

Of the 12,600 mi. of roads included in the state-operated national highway system, 2,640 mi. of pavement was badly damaged, either by demolition or by military traffic so heavy as to ruin the surface; miles of embankments had to be raised and more miles of cuts through mountainous areas had to be re-excavated; tunnels totalling 15 miles in length had to be rebuilt, and more than 2,944 bridges were knocked out.

The state railways faced an equally gigantic task. Damaged or destroyed in the war were some 7,700 mi. of open track (21 percent of the network); 1,560 mi. of yard trackage; 39 mi. of masonry bridges; 21 mi. of iron or steel bridges; 10,000 miscellaneous structures; 2,310 mi. of high-tension electric lines; 3,920 mi. of contact electric lines and about 40 percent of the system's signal devices.

According to Eugenio Gra, an engineer who is director-general of autonomous government agency operating the highway system, nearly all of the work on the highways has been completed—with the exception of bridge work—and most roads are now back to prewar condition. Due to shortage of materials and labor, the bridge work has been considerably slower—some 862 still remaining to be repaired or rebuilt at the present time.

On the railroad, where reconstruction has been hampered by uncertain deliveries from abroad of copper, lead, coal, iron and steel, great strides have nevertheless been made. By midsummer, more than 50 percent of all recorded damage had been repaired and the lines were operating, although in some places on a much reduced basis. The shortage of steel has forced bridge reconstruction, where possible, in masonry or reinforced concrete.

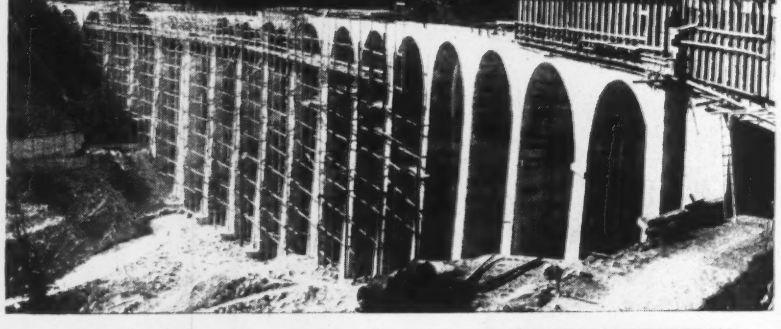
While a large part of the preliminary railroad reconstruction work was undertaken by allied military forces, the Italian government by the end of 1946 appropriated $146,000,000 for reconstruction, and is expected to assign another $260,000,000 to finish the job.

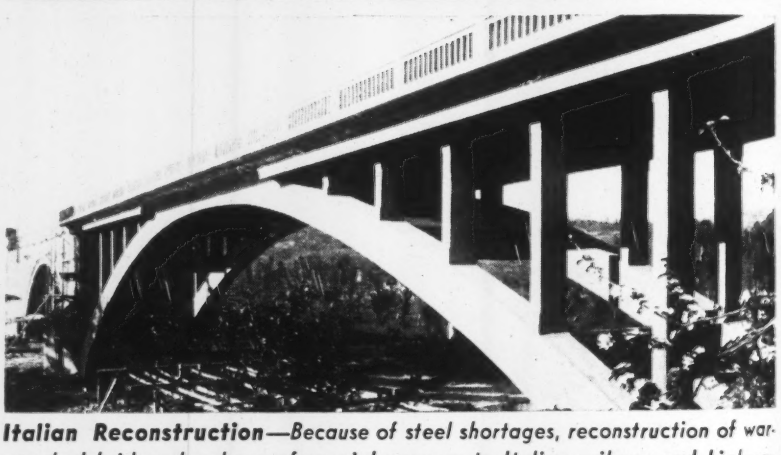
Boom revives . . . .

Mexico—This nation's 12-year-old construction boom is fast resuming its pace, after a sharp slow-down a year ago that forced drastic reductions in construction costs, a recent survey shows.

When the boom began to show signs of slackening (*ENR* Nov. 21, 1946, vol. p. 681) cement had reached an all-time high of $83 per ton. Today it has toppled to $23.50 per ton, and other prices—including that of land—have fallen correspondingly. Cheaper land and building materials have encouraged builders to enter the construction of dwellings for the middle and working classes, and building loan banks have again eased their credit restrictions for this type of work.

The banks, however, are maintaining a cautious approach in view of the definite inflation in construction costs of the previous year. Also alert against future inflationary moves is the government of the Federal District (Mexico City) which has already succeeded in obtaining $2,000 fines and 90-day business suspensions in court actions against





***Italian Reconstruction**—Because of steel shortages, reconstruction of war-wrecked bridges has been of special concern to Italian railway and highway engineers. At top the 150-ft. high Sagittario viaduct near Sulmona—originally built of brick but reduced to a pile of rubble by German demolition squads—is rebuilt in concrete. Its 17 arches have spans of more than 30 ft. The highway bridge over the Tiber near Montecastelli, in which a 210-ft. concrete arch was substituted for three 90-ft. brick arches (below) is in use.*

three alleged black-market operators in construction materials.

Irrigation . . . .

Siam—A seven-year construction program to bring some 5,000,000 acres under irrigation has been started by the Siamese government, and M. L. X. Kambhu, chief engineer of the irrigation department, is now in the United States to obtain equipment and materials to expedite the work.

Total cost of the work is estimated at 667,600,000 Ticals (Siamese currency)—or more than $67,000,000. Of this amount, about $30,000,000 will be used for the purchase of machinery and supplies abroad—mostly in the U. S.

The project will call for one major dam structure and 14 smaller ones, designed primarily for irrigation storage, but also to be used for production of electric power. Biggest structure will be a long dam across the Choa Rhya River, near the city of Chainadh, to supply additional water for 2,200,000 acres already under cultivation on the Central Plain of Siam. This dam will be equipped with 16 stoney gates measuring 12.5 meters wide and 14 meters high, and would include a navigation lock 14 meters wide and 144 meters long, and a powerhouse to accommodate four 10,000-kw. turbines. The dam would be 370 meters long in the main channel, plus long earthfill embankments.

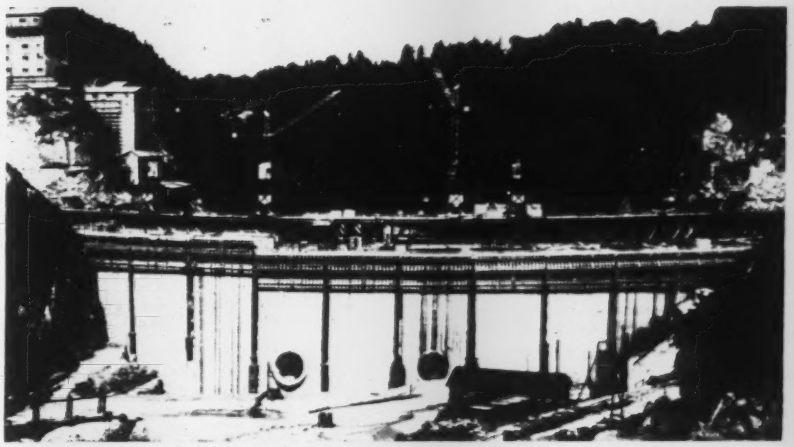
Of the smaller projects, several of which are already under construction, most include construction of canals, siphons and regulating facilities.

Through increases in the possible production of rice, soybeans and other agricultural products, government officials expect the project to increase the nation's buying power by about $59,000,000 annually.

Education . . . .

Eighteen surveying and mapping engineers, representing nine Latin-American countries, are now in the United States studying American methods under the auspices of the U. S. Coast and Geodetic Survey and the Department of State. The men will spend about six months in this country.

The group is taking advantage of a two-point program of cooperation with American republics in which the Geological Survey has been assisting for several years. It consists of visits by U. S. technical experts to countries that have adopted American methods, and the selection of engineers and technicians from Latin-American countries for courses in the U. S. in geodetic surveying, map and chart production and hydrographic surveying.



***Swiss Power Dam**—Swiss engineers expect to have this new dam on the Sarine River near Fribourg in operation by the spring of next year, by continuing concreting operations through the coming winter.*

The War Department Civil Affairs Division announced it will shortly send to military government officials in Germany more than 2,000 photographs and plans, and a special library of books and documents showing recent developments in American housing and city planning, for use by German architects and planners in the tremendous task of rebuilding wrecked cities.

Japan—The Engineer School formerly located near Clark Field, Luzon, in the Philippine Islands, for training engineer specialists for all elements of the U. S. Army's Far East Command, has been transferred to the jurisdiction of the Eighth Army and will be located near Kyoto, Japan.

The school will now be known as the Eighth Army Engineer School, and will be operated at a former Japanese Marine school, 40 miles northwest of Kyoto. Lt. Col. H. D. Davis of Gary, Ind., formerly director of the officer candidate courses at the Engineer School, Ft. Belvoir, Va., will remain in command of the school in its new location, an Army release said.

POSTPONE INTER-AMERICAN SANITARY ENGINEER MEET

At the request of the Chilean section, the third Inter-American Sanitary Engineering Conference—originally scheduled for this year—has been postponed until April, 1948.

Donald L. Snow, acting secretary of the association, said that members will be informed as soon as possible of new plans.

Mr. Snow reported that the association now has a membership exceeding 700, and that several national chapters have been chartered.

Transport . . . .

Venezuela—A plan for modernizing Venezuelan transport facilities has been submitted to the Ministry of Public Works by the National Transport Commission.

The first phase of the plan, completed after a year and a half of study, is expected to take 10 years, and calls for the construction of new highway, railroad, airline, river and coastwise shipping facilities. Highway plans alone call for the investment of $106,000,000; 38 airports will cost $9,750,000; and 25 ports and coastwise shipping harbors will cost $28,200,000.

England—In a move designed to conserve coal and increase service, the L.N.E.R. railroad has received Parliamentary permission to continue electrification of about 300 miles of track on its Manchester-Sheffield main line.

Power . . . .

Switzerland—Swiss engineers expect to put the new Rossens Dam, on the Sarine River near Fribourg, into service by the spring of 1948, after nearly three years of construction work.

The dam fills a narrow gorge of the river, 261 ft. wide at bottom and 853 ft. wide at the top, and will rise about 220 ft. above the water level. The concrete structure is being built without reinforcement, 55 to 70 lb. of Portland cement being used per cubic yard, with as little water as possible. For ease in pouring, the dam is divided into vertical masses 44 ft. wide, separated by contraction spaces.

A powerhouse being built in conjunction with the dam will produce 60,000 kw. Total cost of the project is estimated at $16,500,000.

Random Lines *from an editor's notebook . . .*

. . . In which the progress on construction of the Maine Turnpike is reported in some detail

By a little detouring around bridges where steel has arrived late and driving for short distances on the subgrade it was possible for me to make a trip recently over the full 44-mile length of the Maine Turnpike from Kittery to Portland.

Between detours there is an excellent riding surface of asphaltic concrete laid on sand or gravel base. The contractors are hauling over the new paving with heavily loaded carrying scrapers but, despite new fill and larger-than-design loads, the flexible pavement shows no distress.

My guide for the trip was L. D. Brown, tall, genial resident engineer for Howard, Needles, Tammen and Bergendoff, who are doing the engineering. The road is being built for the Maine Turnpike Authority for whom W. B. Getchell, Jr., formerly with the Maine highway department, is executive director.

Eight black-top spreaders are working in pairs to lay a 24-ft. wide roadway of hot-mix, hot-laid, pavement with a 5 or 6-in. two-course base and 2 in. top. B. Perini & Sons, Inc. of Framingham, Mass., hold the contract for paving what amounts to about 100 miles of 24-ft. roadway. This is Perini's first venture into black-top paving in recent years. They bought complete outfits of the best of new equipment to do the south half of the paving and sublet the north half to Gibbons & Reed of Salt Lake City, Utah. How well good equipment pays off is shown by the fact that Perini, working one 12-hr. shift have their half of the paving well under control and are doing a few miles of sublet section where work has been progressing on two 9-hr. shifts.

Most of the paving remaining to be done is in short sections at bridges where construction has been delayed by late arrival of steel. All of the structural steel is on the way now, but some of it has spent three weeks enroute from Pittsburgh. From Kittery to Portland, crews of American Bridge Co. are setting steel. Structures over the turnpike, all beam spans, have all connections welded to eliminate rivet heads on the otherwise smooth steel. Other structures that are not so conspicuous are beam or girder spans and are riveted. Good welders are available, riveters are scarce through all of New England.

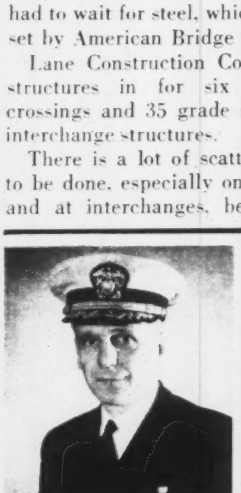
Savin Construction Corp. of East Hartford, Conn., and Lane Construction Corp. of Meriden, Conn., are practically finished with their grading contracts. Ellis C. Snodgrass of Portland, Me., has the substructures in for the York and Saco river bridges and has had to wait for steel, which is now being set by American Bridge Co.

Lane Construction Co. has the substructures in for six smaller river crossings and 35 grade separation and interchange structures.

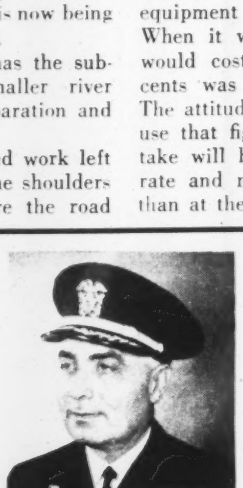
There is a lot of scattered work left to be done, especially on the shoulders and at interchanges, before the road can be opened to traffic. But, with reasonable weather, paving will be finished by mid-October and other essential things by some time in November so there is every probability that the turnpike will be opened late this year.

Final dressing up will not be done this year. The toll houses won't be finished either, but don't expect free rides. There will be at least one booth working at each access point.

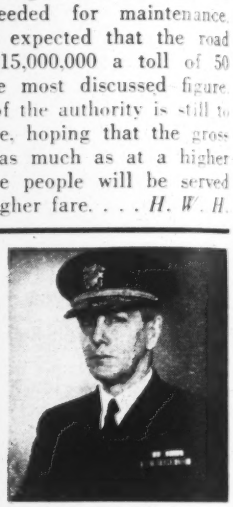
Tolls for turnpike use have not been definitely fixed. Costs are up substantially over the estimate and will approximate $20,000,000 for the 44 mile facility, including all connections and equipment needed for maintenance. When it was expected that the road would cost $15,000,000 a toll of 50 cents was the most discussed figure. The attitude of the authority is still to use that figure, hoping that the gross take will be as much as at a higher rate and more people will be served than at the higher fare. . . . *H. W. H.*



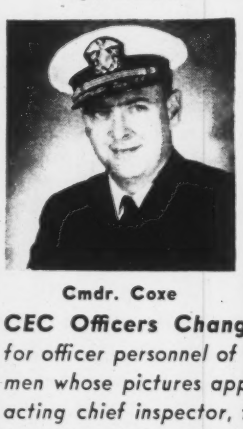
Capt. Gebhard



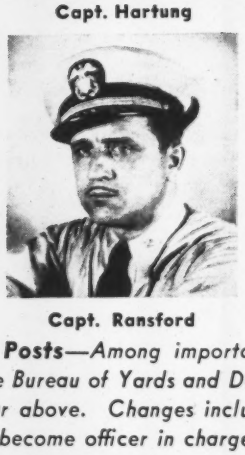
Capt. Hartung



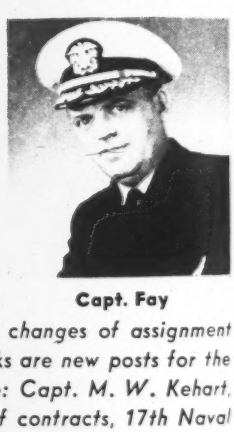
Adm. Smith



Cmdr. Coxe



Capt. Ransford



Capt. Fay

CEC Officers Change Posts—*Among important changes of assignment for officer personnel of the Bureau of Yards and Docks are new posts for the men whose pictures appear above. Changes include: Capt. M. W. Kehart, acting chief inspector, to become officer in charge of contracts, 17th Naval District, and Capt. T. A. Hartung, formerly construction department director, to become chief inspector; Capt. W. O. Hiltabidle, public works officer, Newport, R. I., to become construction department director, replaced by Capt. A. J. Fay, formerly head of military personnel division; Capt. Howard Ransford, formerly public works officer, 9th Naval District, to become head of military personnel, replaced by Capt. J. G. Gebhard, formerly director of planning and design; Cmdr. L. C. Coxe, former assistant design manager, becomes assistant director of planning and design manager. Rear Adm. W. H. Smith, who has been supervising research activities and is director of the planning and design department, has assumed the additional title of assistant chief of the bureau for plans and research.*

Western state engineers at Boise attack Reclamation Bureau policies

Four-day session opposes "social theories" in bureau administration, supports bill to reduce interest rates on projects.

Although they expressed strong support for one phase of Reclamation Bureau policy—the Rockwell Bill to reduce interest charges to power and municipal water aspects of reclamation projects—engineers of the eleven western states sharply criticized "debatable social theories" in bureau administration.

The actions were prominent features of a four-day meeting at Boise, Idaho, of the Association of Western State engineers. At the meeting, the group named O. C. Williams, Arizona state water commissioner, as president to succeed Mark R. Kulp, Idaho reclamation engineer.

Denouncing the "replacement of experienced men and introduction of debatable policies based on questionable theories", the group adopted a resolution calling on Congress to return the direction of the bureau to "those experienced and qualified for such work" in order to prevent the standing of the bureau "from deteriorating further."

Discuss McNary Dam

Addressing the group on matters concerning Western rivers, Col. T. D. Weaver, division engineer, North Pacific Division, Corps of Engineers, told of river and harbor and flood control development in the Northwest. He laid particular emphasis on McNary Dam and its importance, citing the fact that of $6,000,000 available for new river and harbor work in the Northwest during 1948, $4½ millions are earmarked for that project. Colonel Weaver also touched upon meetings of the Columbia Basin Inter Agency Committee, of which Weaver is a member and former chairman, and said that "a decision will be forthcoming soon" on the proposal by the Fish and Wild Life Service of the Interior Department for a 10-year moratorium on dam construction on the Snake River and on part of the Columbia River.

Other authorities on Western problems who spoke during the sessions included George W. Craddock, of the Intermountain Forestry Experiment Station at Ogden, Utah; William E. Welsh, Boise River watermaster; George D. Clyde, Irrigation Division, Soil Conservation Service, Logan, Utah; Carl G. Paulsen, chief hydraulic engineer, U. S. Geological Survey; R. J. Newell, regional director, Bureau of Reclamation, Boise; and State Senator Fred M. Taylor of Boise.

Reclamation laws criticized

One of the meeting highlights was a symposium in which representatives from each state reported on "changes needed to make reclamation laws more workable in my state." In this regard, Ed. H. Watson, Utah state engineer, criticized the expenditure of federal funds for economic studies rather than for the building of dams and canals. He recommended making the repayment provisions flexible in accord with the rise and fall of farm prices and other factors. O. C. Williams, Arizona state water commissioner, proposed including silt and salinity control and recreation benefits in non-reimbursable reclamation costs. Rodney Ryker, Washington Division of Water Resources, said the "basic law has proved sound year after year" and urged caution in making changes. He did suggest providing a means for the bureau to do emergency replacement work on facilities they construct.

Resolutions and officers

J. J. Walsh, North Dakota state engineer, suggested flexibility in the 160-acre limitation and asked that regional district officials of the reclamation bureau be given more authority.

In resolutions, the group urged an irrigation and drainage research program in the Division of Irrigation of the Soil Conservation Service, called for congressional support of the snow survey program of the same agency, asked the appropriation of funds for expediting the U. S. mapping program and proposed that Congress take "appropriate steps . . . to formulate . . . a well coordinated policy for water and soil research development."

Officers elected for terms beginning next January included O. C. Williams, Arizona state water commissioner, president; J. J. Walsh, state engineer of North Dakota, vice-president; and Mark R. Kulp, Idaho state reclamation engineer, member of the executive committee. Williams named C. H. W. Smith, of the Arizona department, as secretary in accord with association custom.

The next meeting is tentatively set for August, 1948, at Tucson, Ariz.

WASHINGTON ROAD BUREAU PAY FOUND HIGHEST IN WEST

The State of Washington's highway department employees are the best paid in the eleven western states, according to a survey conducted by the Utah Foundation, a tax research group.

The Foundation found that Washington personnel received an average monthly pay of $224; Arizona, $221; and Utah, $206, as of July, 1946.

Five western states have no paid administrative highway boards, while five others have commissions or boards with members receiving $10 to $15 per diem for days on state highway business. Wyoming pays its commission members a flat $50 per month, the Foundation report said.

***Engineering Discussion**—Among those at the recent Western state engineers meeting were Col. T. D. Weaver (left), North Pacific Division engineer; Rep. Antonio Fernandez, New Mexico; and O. C. Williams, Arizona state water commissioner and president-elect of the association.*

HIGHLIGHTS OF MUNICIPAL DEVELOPMENTS

Summarizing current activities in city engineering and construction throughout the country

New York shelves $415 million construction plans—Boston readies $10 million airport contracts—Propose airport in river bed for Los Angeles—Omaha considers smoke control ordinance—Winston-Salem seeks federal aid in water crisis

Facing the twin problems of rising costs of construction and statutory limitations on city spending, New York City has been forced to shelve "for a long time" some $415,000,000 in planned construction work.

Addressing the City Planning Commission as it prepared to draw up a tentative 1948 capital budget, Mayor William O'Dwyer told commissioners to limit approval of new projects to those already included in the 1947 budget or in the previously approved five-year spending program, unless the projects are of a "very urgent nature."

The mayor said all other work would have to be postponed into "the very distant future." He recommended approval of new funds totalling $106,000,000, plus the unexpended balance of $104,000,000 appropriated last year, with special attention to schools, hospitals, sewage treatment and transit facilities. He pointed out, however, that the city's Board of Transportation has already asked for $80,000,000 for rehabilitation and new construction and equipment.

He blamed a "bad situation" brought on by war years when city building was at a standstill, as well as constitutional limitations on the city's borrowing for the need to shelve many projects.

Airport plans

A three-mile length of the Los Angeles River may be converted into a $38,600,000 downtown airport, if a proposal submitted by County Supervisor L. J. Roach is adopted.

The proposal includes the use of the river section between First Street and Washington Boulevard in downtown Los Angeles, building an airport on the almost-straight riverbed on concrete and steel piles to permit free flow of water in the main channel. The work would provide a main runway 15,000 ft. long and 600 ft. wide, at an estimated cost of $3,000 per foot, Mr. Roach said.

Other cities also prepared plans to increase their air-traffic facilities. At Boston, Mass., where construction of the Logan International Airport has been held up recently pending investigation of charges of irregularities in some of the work, the city's Department of Public Works said it was preparing plans for some $10,000,000 in contracts to be let during the current fiscal year. The work will include foundations for the main apron building to house airline stations; gravel fill for aprons and taxi-ways around the building, and construction of the building itself. The "apron" building will eventually become a part of the main terminal building.

Indianapolis, Ind., city officials expected to earmark $2,000,000 produced by a bond issue, and $1,000,000 of federal funds for work on the Weir Cook Municipal Airport; and the Port of Seattle planned to open bids Oct. 2 for a $2,500,000 administration building at the Seattle-Tacoma airport.

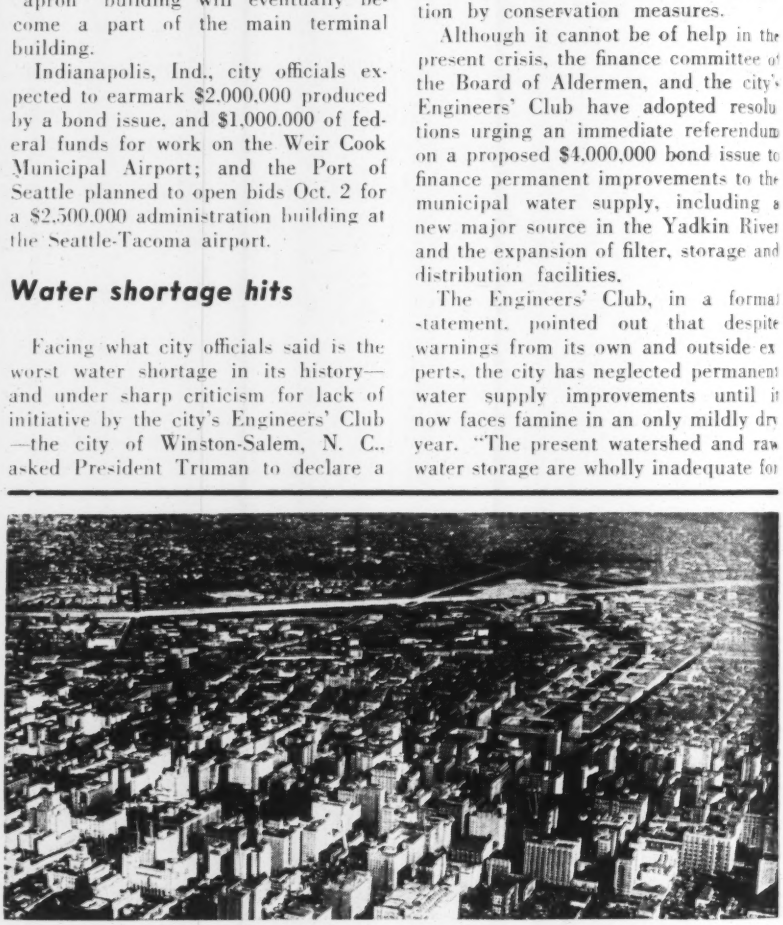
Water shortage hits

Facing what city officials said is the worst water shortage in its history—and under sharp criticism for lack of initiative by the city's Engineers' Club—the city of Winston-Salem, N. C., asked President Truman to declare a state of emergency to hasten acquisition of needed equipment to increase water supplies.

Specifically, the city is asking War Department assistance in obtaining 35,000 ft. of 12-in. pipe to bring more water into the city reservoir—which now holds only enough water to last until Nov. 21 at the present rate of consumption under normal rainfall conditions. With drastic conservation measures being undertaken by industries and householders to conserve water, the city already has built two emergency lines to Salem Creek, with the hope that these will provide 2 mgd. and hopes to cut 4 mgd. from consumption by conservation measures.

Although it cannot be of help in the present crisis, the finance committee of the Board of Aldermen, and the city's Engineers' Club have adopted resolutions urging an immediate referendum on a proposed $4,000,000 bond issue to finance permanent improvements to the municipal water supply, including a new major source in the Yadkin River and the expansion of filter, storage and distribution facilities.

The Engineers' Club, in a formal statement, pointed out that despite warnings from its own and outside experts, the city has neglected permanent water supply improvements until it now faces famine in an only mildly dry year. "The present watershed and raw water storage are wholly inadequate for

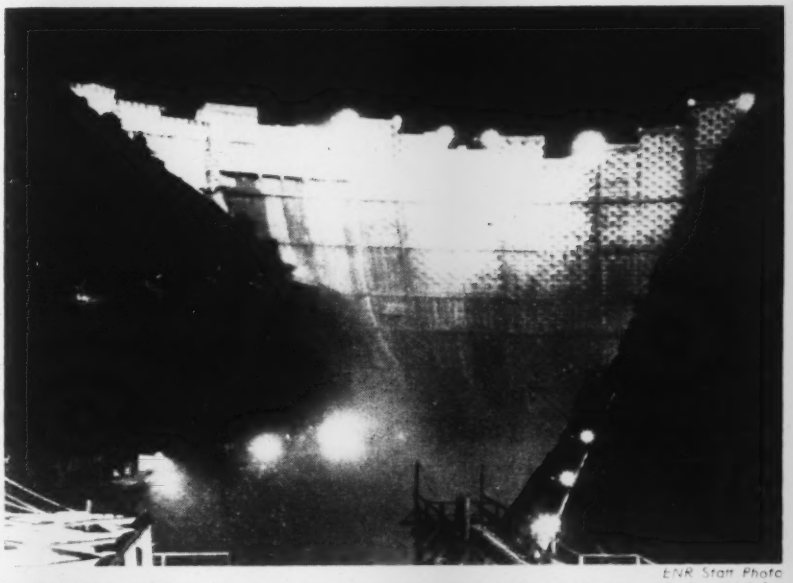


***Business-Area Airport**—Among proposals for relieving air traffic congestion at Los Angeles, Calif., is one for bridging over the Los Angeles River bed to provide an airfield near the downtown section of the city. The plan, under consideration by city officials, would also include vehicular tunnels to Civic Center, Pershing Square, and the hotel section, and a 12-in. pneumatic tube system to the Arcade Post Office station.*

any expansion," the club warned the city more than 18 months ago, "and the present pumping and filter facilities are now operating at near maximum capacity and can assume no additional load. The storage is now (in March, 1946) inadequate and . . . hazardous."

While Winston-Salem sought emergency assistance, other cities reported longer-range plans for insuring adequate supplies. Anderson, Ind., reported the first of its four Ranney system water collectors was in operation, pumping at the rate of 3.5 mgd. Toledo, Ohio, announced it had instituted a "triple-check" chemical analysis of water delivered to consumers through city mains, in an effort to check presence of bacteria, and voters of Burlington, N. C., approved a $1,150,000 bond issue for water main additions and improvements.

Joliet and Aurora, Ill., two of the largest communities in the Fox River Valley, began a search for new water supplies, while other cities in the area began drilling new wells to insure service. Joliet officials, mindful that the city failed to obtain a new industrial plant this year because of uncertain supplies of water from its underground sources, began serious consideration of plans to tap Lake Michigan to supplement its receding underground fields.



ENR Staff Photo

***Third Step**—Completion of concrete pouring for the third step of the 540-ft. Ross Dam is expected this year, according to officials of the Seattle, Wash., City Light Department supervising the work on the Skagit River (ENR Sept. 20, 1945, vol. p. 378). In this night photo, one section of the spillway at upper left is at crest elevation—1,582 ft. above sea level. The waffle-like appearance on the downstream face is to facilitate concrete bonding when a contemplated fourth step is undertaken to increase both height and width of the structure at some future time.*

Omaha to curb smoke

Following the example of other cities that have taken steps recently to curb excessive smoke, Omaha, Neb., city councilmen were considering a new smoke control ordinance, presented after many weeks of preparation.

The ordinance would establish the office of a Chief Smoke Regulation Engineer, to be selected by the City Sanitation Committee; and two citizen advisory boards, one to consult with the engineer and the other to act as an appeals group. The ordinance would require permits for installation or alteration of fuel-burning equipment. It also calls for annual city inspection of equipment, and sets standards for smoke to be tolerated.

City to bid on work

The Burbank, Calif., Parks Department said it intends to bid against private contractors on future construction jobs on its own grounds.

In the first such action, Parks Superintendent Dewey Kruckeberg was instructed by the city to submit a sealed bid in competition with private bidders for construction of a tennis court. Officials said that if the department bid proves to be 15 percent below the lowest private tender, the department will do its own work.

State pays for city roads

Taking advantage of 1942 state legislation authorizing construction of the proposed "Thruway" system, New York's Department of Public Works presented officials of the city of Rome with a plan for a $3,491,000 network of arterial highways, to be financed almost entirely by the state.

Only payment required of the city will be $165,000 for right-of-way procurement, and about $30,000 more for minor construction on Mill Street. The arterial system, in addition to relieving heavy congestion on the city streets, would form a link in the Thruway system that will eventually extend from the outskirts of New York City to beyond Buffalo.

Other municipal action on the traffic congestion front in the last few weeks included:

A seven-point program, including more flexible mass transportation, grade separation projects and greater downtown parking areas, advanced by Baltimore, Md.; a report that Flint, Mich., must spend $41,700,000 if it wishes to put its streets into first-class condition.

ROUNDABOUT TRIP FOR GIRDERS

For two 56-ft. long girders weighing 75 tons each to reach the Brooks Avenue bridge in Rochester, N. Y., from the Odenbach Shipbuilding Corporation's plant on Dewey Avenue in that city—a distance of 15 miles—they had to travel 166 miles.

The girders were too long and too heavy to be hauled over city streets. Therefore the trip was made by barge—56 miles east on Lake Ontario to Oswego; 35 miles south on the Oswego canal to Liverpool; thence 75 miles west back to Rochester on The Erie Canal.

Sewerage problems

The Wilmington, Del., city council called on its Street and Sewer Department to make a city-wide survey of the sewer system to determine its adequacy, particularly for carrying off abnormal rain water.

At Buffalo, New York, the city's sewer authority announced work will start in a few weeks on a $1,200,000 storm water relief project, and at Harrisburg, Pa., voters approved a $300,000 municipal loan for construction and repair work on the city sewer system, which is expected to start soon.

OK 24 sanitation research projects

During the past year officials of the National Institute of Health of the U. S. Public Health Service have approved a total of 24 federal grants for research work in the field of sanitation. Although these grants call for the expenditure of only $188,854 of federal funds, results are expected to be of great value to the advancement of sanitary engineering.

An accompanying table indicates sponsor and the type of research being done with each of the 24 projects. It also shows the amount of federal aid provided for each study, the time the money is available, and the person in charge, who is frequently a sanitary engineer.

The work listed is being done as part of a large-scale, nation-wide program of support for scientific research in medicine and related fields by non-federal groups. The work is conducted without government control by independent scientists, and the purpose of the grants is to stimulate research by universities, colleges, private organizations, and individuals. Since January, 1946, a total of $11,061,000 has been provided for the program.

The work is being done under the authority of the Public Health Service Act of 1944. Late in 1945 the research grants division of the National Institute of Health was established to administer the grants program of the PHS. This division works closely with the National Advisory Health Council, the National Advisory Cancer Council, and the National Mental Health Council. These three organizations aid in the consideration of new applications.

Dr. C. J. Van Slyke, medical director of the PHS and chief of the Division of Grants and Fellowships, is in general charge of the work. Most of the funds available for this fiscal year have been expended, but the PHS is encouraging new applications better to plan next year's program. Applications for new grants should be submitted to Dr. Van Slyke, whose address is the National Institute of Health, Bethesda 14, Md.

Conn. needs 61,000 homes

As a result of a study of Connecticut housing needs in relation to family income, the Connecticut State Housing Authority reports a need for 61,000 dwelling units.

RESEARCH GRANTS IN THE FIELD OF SANITATION
BY THE NATIONAL INSTITUTE OF HEALTH

Institution	Investigator	Title	Period*	Federal Aid
Federal Sewage Works Assn., Decatur, Ill.	W. D. Hatfield	Analysis of Sewage and Industrial Wastes	7/ 1/47-6/30/48	$33,830
Georgia School of Technology	G. W. Reid	Water and Sewage Analysis	10/ 1/46-12/31/47	15,950
Illinois State Water Survey, Univ. of Illinois	A. M. Buswell	Detection of Chemical Contaminants in Water	7/ 1/47-8/31/48	19,966
	W. H. Rodebush			
	C. E. Renn	Micro-Organisms in Drinking Water	10/15/46-10/14/47	3,372
John Hopkins University	W. W. Cort	Factors Limiting Rat Populations	7/ 1/47-6/30/48	14,320
	D. E. Davis			
Louisiana State University	P. W. West	Rapid Determination of Copper in Water	7/ 1/47-6/30/48	2,609
Massachusetts Institute of Technology	C. N. Sawyer	Biological Stabilization of Industrial Wastes	9/ 1/47-8/31/48	10,413
Michigan State College	W. L. Mallmann	Sewage Effluents and Truck Crop Soils	7/ 1/47-6/30/48	3,570
		Anaerobic Digestion of Sewage and Industrial Wastes	7/ 1/47-6/30/48	5,416
New Jersey Agricultural Experiment Station, Rutgers Univ.	Willem Rudolfs	Survival of Tubercle Bacilli in Water	7/ 1/47-6/30/48	2,799
		Oxidation of Soluble Organic Wastes	7/ 1/47-6/30/48	5,382
North Texas State College	J. K. G. Silvey	Control of Algae	7/ 1/47-6/30/48	3,145
	D. E. Bloodgood	Disposal of Cyanide and Other Toxic Wastes	7/ 1/47-6/30/48	4,684
Purdue University	S. F. Hartsell	Pathogenic Bacteria in Frozen Foods	7/ 1/47-6/30/48	4,429
Rensselaer Polytechnic Institute, Troy, New York	E. J. Kilcawley	Capacity of Soils for Sewage Disposal	9/ 1/47-2/ 1/49	12,714
	H. B. Gotaas	Respiratory Contamination	7/ 1/47-	
	J. H. Skillin	Test for Swimming pools	6/30/48	1,700
University of California	W. F. Langelier	Pollutional Strength of Sewages	7/ 1/47-6/30/48	892
University of Cincinnati	W. F. Ashe	Nature of Atmospheric Contaminants	7/ 1/47-6/30/48	7,582
University of Maryland	N. C. Laffer	Examination of Public Water Supplies	7/ 1/47-6/30/48	892
University of Michigan	Earnest Boyce	Efficacy of Small Septic Tanks	7/ 1/47-6/30/48	10,832
University of Minnesota	Theo. A. Olson	Plankton Toxins in Water Supplies	9/ 1/47-8/31/48	8,225
University of Texas	W. R. Woolrich	Factors Affecting Food Preservation	7/ 1/47-6/30/48	3,947
	O. B. Williams			
University of Texas Medical Branch	C. H. Connell	Chlorination of Raw Sewage	7/ 1/47-6/30/48	6,737
	C. A. Nau	Toxicology of Arsine Gas	7/ 1/47-6/30/48	5,439
		Total		$188,854

*This column indicates time the grants remain available.

U. S. charges monopoly in fiber glass field

The Department of Justice said last week it had filed suit in the U. S. District Court at Toledo in an anti-trust action in the building material and fabric field, charging Owens-Corning Fiberglas Corporation and Owens-Illinois Glass Company, both of Toledo, and Corning Glass Works of Corning, N. Y., with monopoly and conspiracy to monopolize.

The complaint charges that Owens-Corning has a monopoly of United States production of glass fibers and glass fiber products, and that Owens-Corning Fiberglas Corporation was formed jointly by Owens-Illinois Glass Company and Corning Glass Works as part of a conspiracy to dominate and control the development of the industry. It also charges that the defendants entered into cartel agreements with the principal foreign producers to buttress their monopoly in the United States by dividing territories and getting exclusive rights and patents and technical information.

Attorney General Tom C. Clark pointed out that the glass fiber industry is a significant new field, and that its products have many uses, including insulation for housing, electrical materials, and roofing construction.

The complaint requests the court to divest Owens-Illinois and Corning Glass Works of their stock interest in Owens-Corning, to enjoin future control, and to split up Owens-Corning according to a plan to be approved by the court, so as to establish independent and competitive business units in the glass fiber industry.

Wisconsin approves new power reservoir

By a last-minute action prior to adjournment, the Wisconsin state legislature last week approved a bill to permit the Dairyland Power Co-operative to build a $3,200,000 dam on the Flambeau River near Peavey, and a $200,000 controlling reservoir a mile farther downstream.

The bill permitted the co-operative to condemn 40 acres of land owned by the Lake Superior District Power Co. in the town of Dewey, near Ladysmith. Proponents of the co-operative convinced the state legislature that unless speedy condemnation was accomplished, some 40,000 farm families in northwest Wisconsin would be faced with a power shortage. Passage of the measure came despite warning from opponents that the measure was unconstitutional.

Toxic radioactive wastes in water may not be difficult to eliminate

New England Water Works Association gets report of Harvard scientists on radiation studies—Calderwood new president.

Usable and efficient methods for the elimination of the toxic effects from radioactive-contaminated water should not be too difficult to develop, in the opinion of Dr. J. Carrell Morris and Jeanne B. Carritt, of Harvard University, who outlined possible lines of development at a meeting of the New England Water Works Association held last week at Boston. Another highlight of the conference was a report on the effects of chlorination on polluted water.

Storage of contaminated water may prove helpful in reducing toxicity (as at the Hanford, Wash., atomic works) where short-lived radioactive elements are present. Removal of dissolved ions from cooling water in industrial atomic piles coupled with filtration and deaeration is promising. Recirculation of the contaminated water may also be of value.

The ion-exchange technique, said the scientists, may be useful in the handling of such wastes. Where specific elements causing radioactivity are known, a so-called "swamping" technique has virtue—this means adding a naturally recurring non-radioactive form of the involved element and precipitating out the radioactive isotope along with the added element. Regeneration of the zeolite or resin bed and dumping of the regenerating solution and the active sludges at sea or at burial sites should prove the means for ultimate disposal.

New data on chlorination

Dean G. M. Fair, Dr. J. Carrell Morris and Shih Lu Chang, of the Harvard Graduate School of Engineering, in a paper entitled "Dynamics of Water Chlorination", presented research data upon the quantitative effects of chlorination upon contaminated water samples.

Most of the work on coliform organisms dealt with concentrations of over 3,000 enteric bacteria per milliliter. The concentration of cysts in water tested was of the order of 30 to 60 per ml. Titrable chlorine residuals alone are poor measures of the disinfecting strength of a chlorine solution. An equation was given for the calculation of the cysticidal concetration of titrable chlorine for any pH value. At a pH of 9 (often obtained in water treatment with lime for anti-corrosion) about 20 times as much residual chlorine is required to destroy amoebic cysts as compared with acid or neutral solutions. Similar results followed studies of bacterial spores, and an equation was given for the required titrable chlorine residual.

Wide differences occur in the resistance of bacterial cultures to dosages. Based on other researchers' work, the authors calculated that the dose of hypochlorus acid required to kill 50 percent of the enteric bacteria in one minute is about 0.016 ppm. of chlorine or 0.75 ppm. of the hypochlorite ion. With longer contact time, the efficiency of the hypochlorite ion approaches that of the hypochlorus acid.

Inactivation of the virus of infectious hepatitis after the removal of particulate matter as well as the destruction of the cercariae of the schistosomes by residual titrable chlorine, called for a dosage of 1 ppm. for a 30-min. application period. This applies to waters free from organic matter, ammonia and inorganic reducing compounds.

So far only the ammonia chloramines have been investigated. Complete information regarding the disinfecting action of all possible chloramines calls for wide study. A general equation was given for the destruction of amoebic cysts by chloramines. For a 30-min. contact time dichloramine is about 60 percent as efficient as hypochlorous acid, and monochloramine 22 percent as effective. For spores of *B. anthracis* dichloramine was 15 percent as effective as hypochlorous acid in 30 min. In comparison with these values the hypochlorite ion is 0.04 percent of cysticidal efficiency. Monochloramine has no detectable value.

Studies of other types of pathogens have not reached the point of distinguishing disinfection by free chlorine from that by chloramines.

Hydro power at Boston

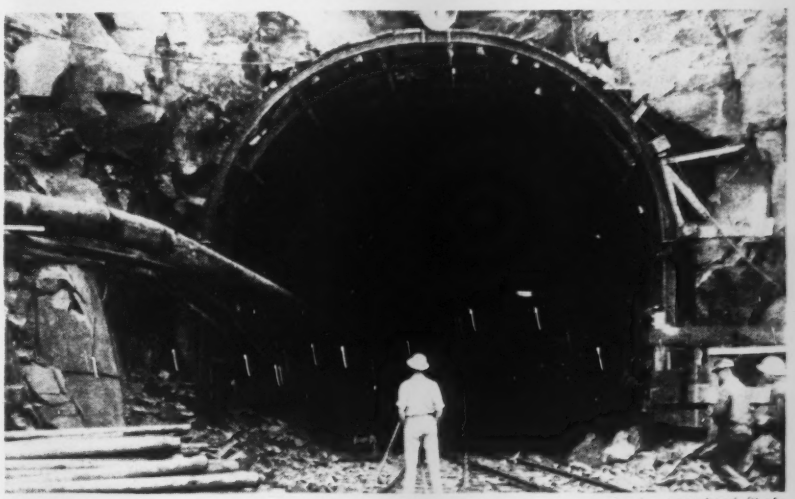
Among other papers at the meeting was a description by C. J. Ginder of the Metropolitan District Commission's new hydroelectric development of 1,500 kva. to utilize water discharged from the Quabbin Reservoir. The hydro plants to deliver such marketable energy as by-products of Boston's water supply will soon total three.

Donald C. Calderwood, engineer of the Pennichcuck Water Co., Nashua, N. H. was elected president.

Maryland names members to pollution-control body

Acting to place a state-wide program for control of stream pollution into operation, Governor W. P. Lane, Jr., of Maryland, last week appointed an eight man commission.

The commission was created by the 1947 legislature.



ENR Staff Photo

***Irrigation Tunnel**—The inlet portal of the 10,000-ft. Bacon Tunnel of the Columbia Basin project has now been enlarged to its full diameter of nearly 27 ft., preparatory to applying a concrete lining which will give the bore a finished diameter of 23 ft. Part of the main canal of the project, the tunnel is being driven by T. E. Connolly, Inc., of San Francisco, the contractor.*

MEN AND JOBS

John F. Harbes, Jr., of Topeka, Kan., has resigned as planning engineer for the Kansas highway commission to go into business. He has been with the highway department since 1930, starting immediately upon graduation from the engineering school at Kansas State College. He worked in the construction and design department, and later served for six years as assistant highway engineer.

Two new officers have been assigned to the Omaha district office Corps of Engineers. They are **Lt. Col. James L. Lewis**, who has been assigned as resident engineer at the Rapid City, S. D., air base in charge of construction of military housing and the new hangar, and Lt. Col. Ward H. Van Atta, assigned to the Omaha district office.

Leaving Omaha after 20 months' service as assistant executive officer to General Pick in the division office is **Capt. George C. West**, who served with Pick on the Ledo road project in Burma. Captain West will attend the quartermaster school for officers at Camp Lee, Va.

Egil Wefald has been named city engineer of Fergus Falls, Minn.

Allan Morton Thomas, Jr. has been appointed acting chief engineer of the Maryland-National Capital Park and Planning Commission. A civil engineering graduate from the University of Maryland in 1935 he succeeds Irwin I. Kaplan, resigned. The acting engineer has been with the commission six months as engineer in charge of park and recreation site improvements. He served in the Navy as a lieutenant commander in various parts of the Pacific area.

George Phelps, civil engineer, with the works department of Toronto, Ont., for the last 34 years, has retired as engineer of sewers.

Joseph B. Sanders is the newly appointed resident engineer at the Garrison Dam site near Riverdale, N. D., succeeding Albert J. Fisk, who was transferred to Guam, as announced by Col. W. W. Wanamaker of the Corps of Engineers.

Orpheus Robert Bellucci, of Barre, Vt., a graduate in civil engineering from Norwich University, 1947, is civil engineer class 1, with the Illinois Department of Aeronautics, Springfield. He had served as instrument man with the Vermont State Highway Department.

Edward H. Gilbert, Loudonville, Ohio, graduate, 1929, in civil engineering, Michigan State, has started with the Illinois Department of Aeronautics as civil engineer 3. He had been post engineer, A.A.F., Bowman Field, Louisville, Ky., engineer and superintendent of design, construction, and maintenance.

O. L. Hoffman, chief of the engineering planning branch of the Portland, Ore., district, Corps of Engineers, has been appointed chief of the district's real estate division. Educated at Ohio State University and Carnegie

Members of a consulting board to the Port of New York Authority in efforts to rehabilitate foundations at sinking LaGuardia Airport are, left to right: O. J. Porter, Frederick R. Harris and William H. Mueser.

E. E. Edwards (left) and J. C. Kennedy, project engineers for the Ohio River Division, Corps of Engineers, are dwarfed by the size of a 110-in. pneumatic tire used in testing heavy concrete airplane runways at the Army Engineers' test track at Lockbourne airfield.

Operation of the sewage treatment plant at Beaver Falls, Pa., is under supervision of (left to right): John Wissner, assistant superintendent; K. H. Hendrickson, superintendent, and D. F. Harvey, city engineer. The old Imhoff tank in background has been converted to a settling basin.

John W. Howard, engineer in the project-planning section of the Bureau of Reclamation's regional office in Denver, shows by his smile that it's a privilege to live in Colorado. He ought to know after five years in the Army during which he saw a great deal of the world.

Institute of Technology, he is a registered engineer with 24 years of practice. He joined the Portland district in 1939 and has served in various capacities, including head of the utility section and the planning branch.

L. R. Chandler, resident engineer at Pendleton for the Oregon Highway Department, has been transferred to Portland as maintenance superintendent. He has been succeeded at Pendleton by W. S. Hodge.

Col. Louis H. Foote, military assistant to Brig. Gen. Douglas L. Weart, Ohio River division engineer, has succeeded Col. Walter E. Lorence as head of the Army Engineers in the Pittsburgh district. He is acting chief. A veteran of three years' service in the Aleutian Islands, Col. Foote went to Cincinnati May 1, 1947, after serving for a time as executive officer at Ft. Lewis, Wash. He entered the Army in 1937 after graduation from Washington State University.

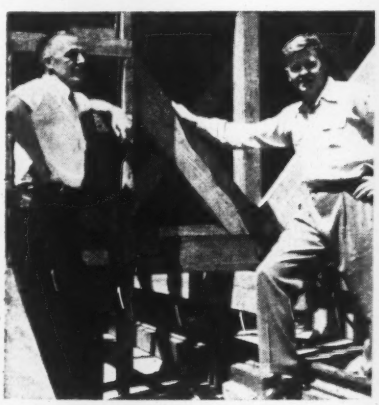
Leroy O. Macneal is now project manager for the Roane-Anderson Co. at Oak Ridge, Tenn. Mr. Macneal succeeds **Clinton N. Hernandez,** who has been project manager for the company at Oak Ridge since it became general operating contractor for the city in September, 1943. Mr. Hernandez has been recalled to the New York office of the Turner Construction Company for a special assignment. The contract of the Roane-Anderson firm at Oak Ridge was recently extended three and one-half years to Dec. 1, 1950, under a new agreement signed with the Atomic Energy Commission.

C. A. Rothrock, West Virginia state planning engineer, shows latest highway developments to (left to right): L. C. M. Reddy, assistant chief engineer, Bangalore, India; M. F. Kent, highway economist, PRA, Charleston, W. Va.; K. S. Raghavachary, consulting engineer, New Delhi, India, and N. C. Patel, executive engineer, Bombay, India

Walter E. Blomgren who has been appointed assistant regional director of the Bureau of Reclamation's Region 7, with headquarters in Denver, working under Regional Director Avery A. Batson, started his reclamation service in 1910 as chairman on the Boise project in Idaho. Mr. Blomgren has worked in irrigation engineering continuously except for a short period when he returned to the University of Colorado to complete his engineering education. From 1922 to 1929 he worked in irrigation on the Fort Hall project of the Office of Indian Affairs. Since 1929 he has been with the Bureau of Reclamation, his position including that of chief of designs for tunnel outlets and works at Hoover Dam. In 1944 he was named field representative of the branch of design and construction to assist field offices in project planning, later becoming regional engineer for Region 7.

John L. Rannie, civil engineer, has been appointed dominion geodesist, Geodetic Service of Canada, Surveys and Engineering Branch, Department of Mines and Resources, located at Ottawa.

William Greenwood has been appointed town engineer of Brockville, Ont.



Construction of a large Washington, D. C., parking garage with a barrel-arch roof is under supervision of Bruce Hutzler (left), general superintendent for C. H. Tompkins Co.; and L. A. Brauer, resident engineer for the Roberts and Schaefer Co. of Chicago, Ill.

E. L. Macdonald (left) engineer in charge, Mokelumne Division, East Bay (Calif.) Municipal Utility District, and C. H. Brannen, superintendent of the Pittsburg, Calif., plant of the American Pipe and Construction Co., discuss pipe fabrication progress for the Second Mokelumne Aqueduct.

Relaxation is in order for D. W. Radcliffe (left), chief of Washington Aqueduct operations for the Corps of Engineers; R. S. Chapin (center) of the District of Columbia sewer division, and W. A. Xanten, refuse superintendent for the capital city, on a recent outing.

ENGINEERING SCHOOL NEWS

Building construction course at New York University—Ready-mix concrete fellowship establishment at Maryland—Many new faculty members

A program of courses in building construction, air-conditioning, and heating is being offered by the division of general education of New York University. These courses are given in the evening and are intended primarily for men in the field.

Among the courses are: Construction Plan Reading and Estimating; Building Codes and Contracts; Heating and Ventilating, Air-Conditioning, Air-Conditioning Design, Elements of Refrigeration, and Plumbing Theory and Codes. These courses are supplemented by a basic program in mathematics, physics, and technical drawing for those not prepared for advanced work

No college credit is given, but certificates are awarded to students who complete the work of each course successfully. Further information may be obtained from S. G. Poth, Technical Program, Division of General Education, Room 211, 100 Washington Square East, New York 3, N. Y.

Establishment of a fellowship in the college of engineering at the University of Maryland honoring Stephen Stepanian of Columbus, Ohio, vice-president of the Arrow Sand & Gravel Co. and the Marble Cliff Quarries Co., has been announced by the National Ready Mixed Concrete Association. Stepanian is said to have designed the ready-mixed concrete truck in 1914, but was denied patents on the device, although it later became the foundation of a new industry. The fellowship will provide two years of graduate study leading to a master's degree in engineering. The recipient will do his thesis work in the field of ready-mixed concrete problems.

A new curriculum, designed to bridge the gap revealed in the war between physics and engineering, is being offered this fall on the Berkeley campus of the University of California. It will lead to a bachelor of science degree in engineering and will not affect existing courses in either engineering or physics, but is an additional alternative. It will prepare graduates for important jobs in atomic energy plants, electronics and metallurgical projects, Dean Everett D. Howe said. A course in "Control of Industrial Smoke and Fume" is being offered by the University of California Extension in Los Angeles, with Morris Asimow as lecturer.

Felix A. Wallace has been named head of a new department of civil engineering at the College of the Pacific, Stockton, Calif., President Robert E. Burns has announced. The school's engineering courses were discontinued during war years so that other requirements of the Navy V-12 training program might be met.

F. A. Wallace

A graduate of the Polytechnic Institute of Brooklyn, Mr. Wallace worked in transit and structural engineering from 1929 to 1942, first with the Brooklyn and Queens Transit Corporation and then with the New York City transit system. In 1942 he entered the Navy, becoming officer in charge of the U S Naval Base at Almirante, Panama, and later officer in charge of all engineering and public works activities at the Taboga, Canal Zone, base. He has taught in the civil engineering department of the Carnegie Institute of Technology and has spent the last year there working on a doctorate project.

The new course, within the liberal arts structure, will lead to a bachelor of science degree and will be built to fully accredited standards as rapidly as possible.

Two new associate professors in the school of engineering at the University of Buffalo have been announced. They are Anthony T. Balint and Marcel K. Newman. The appointments were necessary because of a great increase in enrollment.

Appointment of Charles B. Smith, a structural engineer, as assistant professor in the department of civil engineering in the college of engineering at the Ohio State University, has been announced by Howard L. Bevis, president. Since his graduation from Ohio State University in 1936, Professor Smith has been connected with the Mt. Vernon Bridge Co., of Mt. Vernon, Ohio, as a structural detailer, designer, estimator, and in the erection and contracting departments. He holds the degree of bachelor of civil engineering. During the war he was at Ironton, Ohio, with the bridge company in the construction, assembly and outfitting of invasion craft and sludge removal barges for the U. S. Navy, and river tow boats for use by the Defense Plant Corp.

Roger E. Kolm, structural design engineer for Dravo Corporation, has been named assistant professor of civil engineering at Lehigh University. Mr. Kolm received his master's degree from Lehigh in 1942.

The college of engineering, University of Illinois, has been closed to further registration. Registration at the Navy Pier branch, Chicago, has been closed in all departments, the branch having its full complement of 4,000 students for the coming year. The Champaign-Urbana campus will care for 18,000 students this fall. It was noted that the percentage of new students at Navy Pier, who are veterans, had declined more than 60 per cent this year compared with last.

Recently Miss Lucy Wilson, 21, of Sebring, Fla., received a degree of bachelor of science in civil engineering at the University of Texas, where she was the youngest member of the graduating class. She plans to specialize in irrigation.

A number of changes have been made in the faculty of the college of engineering at the University of Washington, with Albert O. Jarvi advanced to assistant professor of civil engineering and Alfred Jensen to associate professor teaching general engineering subjects.

With record enrollment in its engineering department, Louisiana Tech has added several new faculty members to its school of engineering, including Richard A. Smith and Warren N. White, assistant professors of civil engineering.

Raymond J. Lockwood, former engineering instructor at Oregon State College, has been appointed head of the engineering department of Vanport Center College, Portland, Ore. He takes the place of Eugene J. Guidemann, who goes to South Dakota State College as head of the department of hydraulic engineering.

OBITUARY

William Rose Barclay, 60, former city engineer of Hawthorne and Redondo Beach, Calif., died Sept. 4 at Hawthorne. He had served as city engineer of Hawthorne for five years, and later as city engineer of Redondo Beach.

William McCormick Neale, 62, member of the engineering school faculty at North Carolina State College, Raleigh, N. C., and founder and owner of the Industrial and Commercial Construction Company and president of the Piedmont Building Materials Company of Greensboro, N. C., died Sept. 10. During World War II he was cited by the Navy for his work in construction and designing. He was a member of the American Society of Engineers.

William G. Wegner, 50, designing engineer for the Weyerhaeuser Timber Co. at Tacoma, Wash., for 27 years, died there Aug. 25.

Henry Norby, 70, civil engineer for the Washington State Highway Department at Seattle, died there Sept. 7.

Vernon M. Eager, civil engineer with the Washington State Highway Department at Seattle, died there Sept. 4. He served as a captain in the U. S. Army Engineer Corps during World War I.

James Lyons, 69, well known in building circles in Ontario, and former Minister of Lands and Forest of the provincial government, died at Sault Ste Marie Sept. 10.

Robert R. Evans, 74, civil engineer, and Essex County's first official engineer, died Sept. 12 in Haverhill, Mass. He began his career in the Haverhill city engineer's office in 1891. He supervised the building of more than 200 dams in the county, was resident engineer in charge of construction of the Haverhill upper bridge and supervised construction of the Kernwood bridge in Salem, and many others.

Ollie M. Hoge, 71, a retired city engineer, Chicago, Ill., died Sept. 10.

Joseph Place, 56, for ten years a construction engineer with the War Production Board at Washington, D. C., died in Cincinnati, Ohio, Sept. 15.

Frank L. Flynt, 62, chief of the hydraulic section of the Rock Island, Ill., district of the United States Engineers, died in that city on September 10.

Edward J. Pearce, 63, superintendent of the Menominee County, Mich., road commission since 1934, died Sept. 2 at Menominee. For 25 years he was city engineer and superintendent of building and public works at Negaunee, Mich., and he also served at one time as district construction engineer at Newberry for the Michigan State Highway Department.

Joseph N. Mayne, 50, federal aid engineer with the Arkansas State Highway Department, died at Little Rock recently. He had been with the state highway department for the last 15 years.

Luke W. O'Brien, 57, president of the Cook-O'Brien Construction Co., Kansas City, Mo., died in that city Sept. 13.

Harry C. Kittredge, 66, civil engineer of Rochester, N. Y., died recently. He had served as consulting engineer to the late Mayor Hiram H. Edgerton and was active in the planning and supervision of numerous municipal projects, including the waterworks department. He had served as a captain in the Engineers in the first world war.

MAJOR MEETINGS

The Producers' Council, annual meeting, Hotel Commodore, New York, N. Y., Oct. 1-3.

Institute of Traffic Engineers, 18th annual meeting, Hotel Fort Shelby, Detroit, Mich., Oct. 1-4.

American Public Works Association annual Public Works Congress, Hotel George Washington, Jacksonville, Fla., Oct. 5-8.

Canadian Institute on Sewage and Sanitation, annual convention, General Brock Hotel, Niagara Falls, Ont., Oct. 6-8.

National Safety Council, annual convention, Stevens Hotel, Chicago, Ill., Oct. 6-10.

American Society of Civil Engineers, fall meeting, Roosevelt Hotel, Jacksonville, Fla., Oct. 13-17.

National Metal Congress and Exposition, Palmer House, Chicago, Ill., Oct. 18-19.

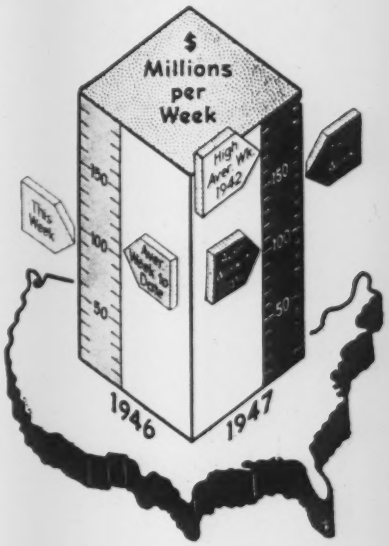
American Welding Society, annual meeting, Sherman Hotel, Chicago, Ill., Oct. 20-24.

Engineers' Council for Professional Development, 15th annual meeting, Mount Royal Hotel, Montreal, Canada, Oct. 24-25.

National Council of State Board of Engineering Examiners, 26th annual meeting, Hotel Pennsylvania, New York, N. Y., Oct. 27-29.

American Institute of Steel Construction, 25th annual convention, Roney Plaza Hotel, Miami Beach, Fla., Nov. 10-13.

CONSTRUCTION ACTIVITY



As Reported this week to . . .
Engineering News-Record

CONTRACT VOLUME

Continental U. S. Only (Thousands of Dollars)

	Week of Sept. 25 1947	Cumulative 1947 (39 wks)	Cumulative 1947 (39 wks)
Federal	$8,276	$493,114	$515,853
State & Mun.	43,802	1,292,975	1,058,849
Total Public	$52,078	$1,786,089	$1,574,702
Total Private	83,105	2,320,313	2,484,195
U. S. Total	**$135,183**	**$4,106,402**	**$4,058,897**

WHERE CONSTRUCTION ACTIVITY ORIGINATED THIS WEEK

Dollar Volume (Thousands)

Type of Work	This Week	Cumulative 1947 (39 wks)	Cumulative 1946 (39 wks)
Waterworks	$2,078	$82,174	$78,474
Sewerage	5,338	103,965	77,312
Bridges	7,316	132,364	104,961
Highways	13,916	609,727	602,902
Earthwork, Waterways	5,366	231,204	288,472
Buildings, Public	14,600	430,085	293,565
Industrial	40,620	651,541	797,516
Commercial	36,717	1,343,699	1,520,497
Unclassified	9,232	521,645	296,098

NOTE: Minimum size projects included are: Waterworks and waterway projects, $22,500; other public works, $40,000; industrial buildings, $55,000; other buildings, $205,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1947 (39 wks)	Cumulative 1946 (39 wks)
NON-FEDERAL	$1,700,242	$1,167,164
Corporate Securities	605,885	348,638
State and Municipal	846,646	593,526
Fed. Aid Highway	247,711	225,000
FEDERAL	818,729	1,714,695
Total Capital	**$2,518,971**	**$2,881,859**

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	Sept. '47	417.81	260.84
Building Cost	Sept. '47	317.08	171.40
Volume	Aug. '47	215	94

CONSTRUCTION REPORTS

Bids Asked—Low Bidders—Contracts Awarded

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ELSIE EAVES, Manager — J. A. MAHONEY, Reports — E. R. BIGGERSTAFF, M. R. ROESSLER, Statistics

WATER SUPPLY

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Bids Asked September 29

Md., Salisbury—Mayor and City Council, City Hall, watermain extens., incl. 3,310 lin. ft. 6 and 8 in. c.i. pipe, appurtenances, 2,220 lin. ft. 2 in. galvanized steel pipe, appurtenances; twelve 6 and 8 in. gate valves with boxes, 4 fire hydrants, six 2 in. gate valves and boxes and 6 four-way branch connection, contr. 11-47-W. Plans deposit $15. Clarke Gardner, city engr.

Bids Asked October 1

Conn., Newtown—Controllers Office, Hartford, pump. station, wells, pipeline at State Hospital.

Bids Asked October 2

D. C., Wash.—Dist. Comrs., District Bldg., concrete roof on reservoir in Fort Stanton Park S. E.

Bids Asked October 3

†Oregon—U. S. Eng., 628 Pittock Block, Portland, Zone 5, drilling, developing water well, incl. furnishing, installing well casing, developing well to maximum capacity and testing, at Meridian Dam (Lookout Point Site) Housing, about ½ mi. north of Lowell, Serial No. 35-026-48-170.

Bids Asked October 6

Ga., Douglasville—Town, WW imprvs. Plans deposit $20. Wiedeman & Singleton, C & S National Bank Bldg., Atlanta, engrs.

Ill., Nauvoo—City, c/o City Clk., water purification plant with auxiliaries, appurtenances and watermain extens., etc. Bids 8/11 rejected. Pappmeier Eng. Co., 4047 Hill Arcade, Galesburg, engr. CD 7/17—ENR 7/24.

Minn., Hallock—Village, C. N. Fowler, clk., 500,000 gal. steel reservoir for Water Dpt. Over $22,500. Plans deposit $10. W. C. Larson, Detroit Lakes, engr.

Bids Asked October 7

Fla., Hollywood—City, water softening plant, exten., addns. William Sydow, 2376 S.W. 21 St., Miami, engr.

Bids Asked October 14

†South Dakota—U. S. Eng., 1709 Jackson St., Omaha, 2, Neb., water supply pumphouse, appurtenances for Pickstown at Fort Randall Reservoir Proj., near Lake Andes, Serial No. W-25-066-eng-48-108. CD 9/10—ENR 9/18.

Bids Asked October 15

Ga., Lagrange—City, WW imprvs., incl. river intake, pump. station. Over $22,500. Plans deposit $15. Wiedeman & Singleton, C & S National Bank Bldg., Atlanta, Ga., engrs. CD 8/27/46—ENR 9/19/46.

Bids Asked After October 15

N. Y., New York—Bd. Water Supply, 120 Wall St., diversion tunnel and coffer-dam for stream control and cut-off wall for Downsville Dam, town of Cochester, Delaware Co. Plans deposit $5.

Bids Asked October 22

Ga., Covington—City, WW imprvs., incl. 1½ m.g. filtration plant, distr. sys. extens., and 2 mi. 16 in. c.i. raw water supply line, over $22,500. Plans deposit $20. Wiedeman & Singleton, C & S National Bank Bldg., Atlanta, engrs.

Bids Asked October 23

†Arizona-California-Nevada—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Boulder City, Nev., 6 across-the-line magnetically operated starters, indoor, for 2,200 volt, 3-phase, 60-cycle, 400 hp., squirrel-cage induction motors, driving centrifugal pumps, 6 gang-operated, 400-ampere, 3-pole, single-throw disconnecting switches, each with 3 single-pole power fuses and enclosed in cabinet for indoor operation and 1 incoming power cabinet, for indoor operation for Boulder City Water Supply Pumping Plants 1A and 2A, Boulder Canyon Proj., Spec 1956. W. R. Young, ch. engr.

LOW BIDDERS

Ala., Hanceville—Town, c/o mayor, Sept. 11, water treatment plant, imprvs., from J. E. Woolley, 304 Ridge Rd., Birmingham. Est. over $22,500. CD 9/3.

Kan., Kansas City—City, Sept. 3, elevated water tank, from Chicago Bridge & Iron Co., 332 S. Michigan Ave., Chicago, Ill., $29,950. Est. $37,000. CD 11/12/43—ENR 11/18/43.

Tex., Houston—City, M. H. Westerman, secy., Sept. 10, pump station, from Fisher Constr. Co., 4711 Greeley St., $68,813. Est. $68,000. CD 9/2—ENR 9/4.

CONTRACTS AWARDED

Ala., Cordova—City, elevated water tank, to Chicago Bridge & Iron Co., 1509 N. 50 St., Birmingham. $25,900. Bids 9/8. CD 8/25—ENR 8/28.

Ala., Cordova—Jasper Waterworks Bd., Cordova, WW imprvs., to Buchanan & Graves, 610 3 Ave., N., Birmingham. $61,000. Bids 9/8. CD 8/25—ENR 8/28.

†D. C. Wash.—U. S. Eng., First and Douglas Sts. N.W., Zone 25, flocculation-sedimentation Basin 4, Washington Aqueduct, Dalecarlia Filtration Plant, Serial No. 40-080-48-4 (3) C, to Cramer-Vollmerhausen Co., 2601 Connecticut Ave. N.W. $831,097. Bids 9/4, awarded 9/11. CD 9/8—ENR 9/11, under LB.

Ia., Fort Dodge—City, Robert H. Clelland, clk., water treatment plant imprvs, incl. removing part of bldg. and constructing addns., filter equip., electrical work, etc., to C. J. Kramme Co., Fort Dodge. $44,300. Bids 9/9. CD 8/29—ENR 9/4.

Kan., Iola—City, water treatment plant, to Douglas Constr. Co., 510 E. 15 St., Topeka. $123,800. Bids 9/2.

Miss., Quitman—City, WW imprvs., incl., distr. sys., to Taylor & Wheless, Quitman. $31,789, water well, to Gray Artesian Well Co., Pensacola, Fla., $10,000. Bids 8/29. CD 8/19—ENR 8-21.

N. Y., Collins—Water Dist. 1, water supply and distr. sys., own forces. $85,000. Bids 7/11. C. R. Catton, Gowanda, engr.

Wyo., Kemmerer—Town, c/o David Moore, engr., 500,000 gal. rein.-con. covered reservoir, to W. E. Thatcher, 314 Kiesel Bldg., Ogden, Utah. $25,900. Est. $25,000. Bids 9/6. C. J. Ullrich, 422 Ness Bldg., Salt Lake City, consult. engr.

Ont., Kemptville—Village, R. J. Patterson, clk., water and sewerage sys., to A. E. Farley Constr. Co., Ltd., 30 Russell Ave., Ottawa, $100,900***c.i. and special castings, to National Iron Corp. Ltd., 324 Cherry St., Toronto, $36,056***sewer pipe, assorted sizes Y's and gravel filling, to Dominion Concrete Co. Ltd., Kemptville, $16,842. Bids 8/29. CD 8/5—ENR 8/14, under Water Supply Sewers.

Ont., Port Arthur—Public Utilities Comm. R. B. Chandler, genl. mgr., Port Arthur, WW sys. in south end of city, to Hacquoil-Houston, 222 W. Gore St., Fort William. Approx $40,000. Bids 8/25. CD 8/14—ENR 8/21.

PROJECTS COVERED

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterworks $22,500; other public works $40,000; industrial buildings $55,000; other buildings $205,000.

Classes of Construction

(Name in order of Listing)

Water Supply	**Latin America**
Sewers, Waste Disposal	**Public Buildings**
Bridges	**Commercial Buildings**
Streets & Roads	
Earthwork, Waterways	**Industrial Buildings**

Unclassified

Stages Reported

PROPOSED WORK: Including appointment of engineers or architects.

BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR.;

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Symbols and Abbreviations Include:

†	Federal Government
●	Project of $1,000,000 or over.
ENR	Engineering News-Record
CD	Engineering News-Record Construction Daily

SEWERS, WASTE DISPOSAL

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Bids Asked September 30

N. J., Long Beach — Long Beach Sewerage Authority, Town Hall, sewage treatment plant, pump station, etc.

Ont., Brockville—Town, H. W. Caswell, clk., 3-to 15-in. main sewer. Approx. $45,000. A. Heuther, c/o owner, engr.

Bids Asked October 1

●**Fla., Miami** — City, 335 mi. sanitary sewer lines, appurtenances sewerage structures $6,400,000. Plans deposit $100. Greeley & Hansen, 220 S. State St., Chicago, Ill., engrs. CD 7/1—ENR 7/10, under LB.

Bids Asked October 2

Ont., Sarnia—Miss M. D. Stewart, city clk., 5,287 ft. 10- to 36-in. rein.-con. sewers, manholes, catchbasins, appurtenances. Approx. $45,000. Plans deposit $10. Gore & Storrie, 1130 Bay St., Toronto, engrs.

Bids Asked October 3

Md., Hyattsville — At office Washington Suburban Sanitary Comn., Hamilton St. Northwest Branch Trunk Sewer from Riggs Rd. to New Hampshire Ave., approx. 4,860 ft. 30 in. rein.-con. and c.i. sewers, Contr. 212-S. Plans deposit $5.

Minn., Ogilvie—Village, A. E. Hawk, clk., sanitary sewer collection sys. and sewage treatment plant, 12,000 lin. ft. 8 and 10 in. sewer, 2 lift stations. Over $40,000. C. K. Handschu, Moose Lake, engr. CD. 8/27—ENR 9/4; under LB.

Bids Asked October 6

Calif., San Leandro — City, City Hall, sewage disposal plant addn. Over $40,000. Plans deposit $10. Clyde C. Kennedy, 604 Mission St., San Francisco, engr. CD 2/24—ENR 3/6.

Calif., San Mateo — City, City Hall, sewers, etc. in San Mateo Village Unit No. 1, Res. 47-12. Over $40,000. Plans deposit $10. James & Waters, 1319 Howard Ave., Burlingame, engrs.

Bids Asked October 8

Calif., Los Angeles—Los Angeles Co., Hall of Records, Los Angeles, Lower Azusa Rd. Trunk Sewer from Arden Dr. to Baldwin Ave. $76,000; Joint Outfall B Unit 5, from Lower Azusa Rd. and Encinto north to Huntington Dr., $65,000; Double Ave. trunk Sewer from Grand Ave. to Live Oak Ave., $78,000; E. Monte Ave. Trunk Sewer from El Monte Ave. and Grand Ave. north to Live Oak Ave., $52,000.

Tex., Dallas—City, Earle Goforth, secy., Sect. 2, of East Bank Intercepter Sewer from Inwood Rd. to Hines and Shorecrest, $500,000. Plans deposit $10. Extended date. CD 9/16—ENR 9/18.

Bids Asked October 9

Calif., Walnut Creek — Central Contra Costa Sanitary Dist., 1335 Commercial Lane, main trunk line sewers, Sect. 2. Over $40,000. Plans deposit $10. Clyde C. Kennedy, 604 Mission St., San Francisco, engr. CD 6/16—ENR 6/26.

Bids Asked October 13

†Pennsylvania—U. S. Eng., 925 New Federal Bldg., Pittsburgh, Zone 19, relocating sanitary sewers, constructing Barret Run Conduit, Punxsutawney Channel Imprvt., Unit 2, Serial No. W-36-058-eng-48-53.

Bids Asked October 14

N. Y., Lawrence — Bd. Village Trustees A. E. Hart, clk., Village Hall, 196 Central Ave., sewage treatment plant addns. Plans deposit $10. Malcolm Pirnie Engineers, 25 W. 43 St., New York, Zone 18, consult. engrs. Bids 9/8 rejected; adv. ENR 9/25. CD 8/22—ENR 8/28.

Bids Asked October 15

Calif., Escondido—City Council, at office Guy B. Ashley, city clk., furnishing 4 electrically driven sedimentation mechanisms; 1 rotary sewage distributor; 1 dry pit type vertical raw sewage pump; 3 electrically driven, submerged type, vertical sewage pumps; misc. gate valves; three 12 in. diam. sluice gates, c.i. pipe, fittings and specials, one digester heater, for sewage treatment plant. CD 3/12—ENR 3/20, under LB.

LOW BIDDERS

Calif., Ione—State Div. Architecture, Pub. Wks. Bldg., Sacramento, rejected bids Sept. 10 sewage plant imprvs. at Preston School of Industry. L. B. $53,850. CD 9/15—ENR 9/18, under LB.

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